



An establishment on the hazard mitigation system of large scale landslides for Zengwen reservoir watershed management in Taiwan

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Extremely heavy rainfall with accumulated rainfall amount more than 2900mm within continuous 3 day event occurred at southern Taiwan has been recognized as a serious natural hazard caused by Morakot typhoon in august, 2009. Very destructive large scale landslides and debris flows were induced by this heavy rainfall event. According to the satellite image processing and monitoring project was conducted by Soil & Water Conservation Bureau after Morakot typhoon. More than 10904 sites of landslide with total sliding area of 18113 ha were significantly found by this project. Also, the field investigation on all landslide areas were executed by this research on the basis of disaster type, scale and location related to the topographic condition, colluvium soil characteristics, bedrock formation and geological structure after Morakot hazard. The mechanism, characteristics and behavior of this large scale landslide combined with debris flow disasters are analyzed and Investigated to rule out the interaction of factors concerned above and identify the disaster extent of rainfall induced landslide during the period of this study.

In order to reduce the disaster risk of large scale landslide and debris flow, the adaption strategy of hazard mitigation system should be set up as soon as possible and taken into consideration of slope land conservation, landslide control countermeasure planning, disaster database establishment, environment impact analysis and disaster risk assessment respectively. As a result, this 3-year research has been focused on the field investigation by using GPS/GIS/RS integration, mechanism and behavior study regarding to the rainfall induced landslide occurrence, disaster database and hazard mitigation system establishment. In fact, this project has become an important issue which was seriously concerned by the government and people live in Taiwan. Hopefully, all results come from this research can be used as a guidance for the disaster prevention and hazard mitigation program operated by local government and reservoir watershed management in southern Taiwan.

Keywords: large scale landslide, disaster prevention, hazard mitigation, watershed management